A marked up version showing amendments to any claims being changed is provided in one or more accompanying pages separate from this amendment in accordance with 37 C.F.R. § 1.121(c)(1)(ii). Any claim not accompanied by a marked up version has not been changed relative to the immediate prior version, except that marked up versions are not being supplied for any canceled claim.

CLAIMS

61. A sputtering target comprising copper, formed by a process including casting, and having a target surface with the following characteristics:

   a) substantially homogenous composition at any location;

   b) substantial absence of pores, voids, inclusions and other casting defects;

   c) substantial absence of precipitates;

   d) grain size less than about 1μm; and

   e) substantially uniform structure and texture at any location.

62. The sputtering target of claim 1 further comprising one or more of Al, Au, and Ag.

63.. The sputtering target of claim 62 comprising Al.

64. The sputtering target of claim 62 comprising Au.

65. The sputtering target of claim 62 comprising Ag.

66. A sputtering target formed from a cast copper material and comprising:

a substantial absence of pores, voids and inclusions; and

an average grain size of less than about 1 μm.

67. The sputtering target of claim 66 wherein the copper material comprises pure copper.

68. The sputtering target of claim 66 comprising one or more of Al, Au, and Ag.

69. The sputtering target of claim 66 wherein the copper material comprises a copper alloy having one or more of the elements selected from the group consisting of Al, Au, and Ag.

70. The sputtering target of claim 66 further comprising a substantial absence of precipitates.

71. The sputtering target of claim 66 further comprising a substantially uniform structure and texture at any location.

72. The sputtering target of claim 66 further comprising a substantially homogeneous composition at any location.